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**The States' Role in  
THE COOPERATIVE  
STATE—FEDERAL  
RESEARCH SYSTEM**  
for agriculture  
and forestry



COOPERATIVE STATE  
RESEARCH SERVICE  
U.S. DEPARTMENT  
OF AGRICULTURE

AGRICULTURE  
INFORMATION  
BULLETIN 288

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## FOREWORD

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U.S. agriculture is the envy the world around. As our Nation's biggest industry, the most efficient agriculture in the world, it is the mainstay of this country and of much of the world as a source of abundant fiber and nutritious food.

A principal reason for this blessing is the Nation's agricultural and forestry research system. When Congress established the U.S. Department of Agriculture and the land-grant colleges in 1862, it created a partnership in science and education that was meant to serve all the people. This cooperative system has done just that.

Today, the Nation has a network of agricultural experiment stations, land-grant colleges of 1890, schools of forestry, and USDA research agencies to serve the people of every State and region. Close cooperation in planning, coordinating, and evaluating this research assures the public of the highest return for each dollar invested.

This publication describes the organization, objectives, and coordination of this research. It also tells you how to get further information about this cooperative State-Federal research system and the work it is doing. Its emphasis is on the State organizations involved in research. There is no attempt here to represent the extensive, highly regarded Federal side of the research system, other than to show in broad terms how it meshes with State efforts.

This publication is produced by the Cooperative State Research Service (CSRS), the USDA agency responsible for working with the State agricultural experiment stations (SAES), colleges of 1890, and forestry schools to help foster such research cooperation and coordination. CSRS's role as catalyst, coordinator, and overseer for research also is outlined in this pamphlet.



# The States' Role in THE COOPERATIVE STATE—FEDERAL RESEARCH SYSTEM

## for agriculture and forestry

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### INTRODUCTION

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**T**he United States Cooperative State-Federal research system in agriculture and forestry has been copied many places around the world. The system involves six USDA agencies, 56 State agricultural experiment stations, 61 schools of forestry, 16 land-grant colleges of 1890 and Tuskegee Institute.

Public support of this system has been vital to the success of U.S. agriculture. About 50 percent of the program is supported from Federal sources, and the rest from State appropriations and industry and foundation grants. In fiscal year 1974, public support of agricultural research and development amounted to about \$730 million.

Here are some characteristics of

this system that have contributed to its success in this country:

1. *The effort is dispersed among all the States.* The original intent was for the system to concentrate on local problems. Later the importance of this local focus was evident as it became clear that economic and social development of the Nation was to be based on that same wide distribution of expertise and educational opportunity.

2. *It is supported by State, Federal, and private sources.* This has meant local responsibility was stimulated and maintained for developing and conducting research. This has helped keep it from being a "top-down" system taking its direction from only one level of government.



3. *Research administration in the States and USDA is decentralized.* Top decisions are made principally on program guidance for broad problem or discipline areas. Specific research proposals originate primarily with the individual scientist. Coordination and program development involve both administrators and scientists. This is particularly important, since a director of State research usually must consider his responsibilities to his parent university, the needs of his State, and other sources of support as well as USDA. At the same time, USDA personnel must consider their obligations as members of the Federal Government, as well as of the broad agricultural scientific community.

4. *It is publicly supported.* This means a wide base of support—Federal and State governments as well as foundations, private organizations and individuals, and other governmental units. It also means that the research will be broadly based in fundamental science. Too, there is a real commitment to meeting current public needs for research to assure continued productivity and development of our agriculture and forestry.

5. *It is highly mission-oriented and aimed largely at problem-solving.* So it has been quite clear on what it was to do, which problems it should try to solve. This has made it possible to concentrate resources to get a specific research job done. It has also meant a relatively high rate of “payoff” for research information users and for consumers.

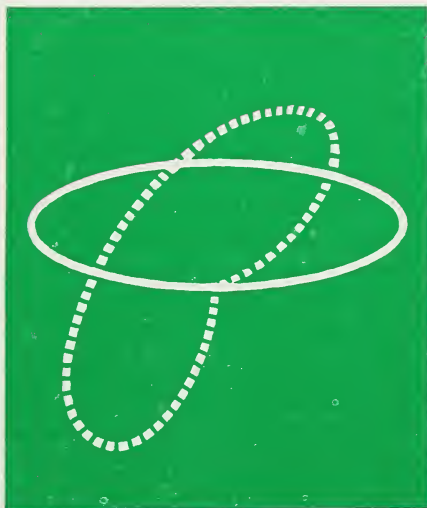
6. *It is tied to an effective information diffusion and technology*

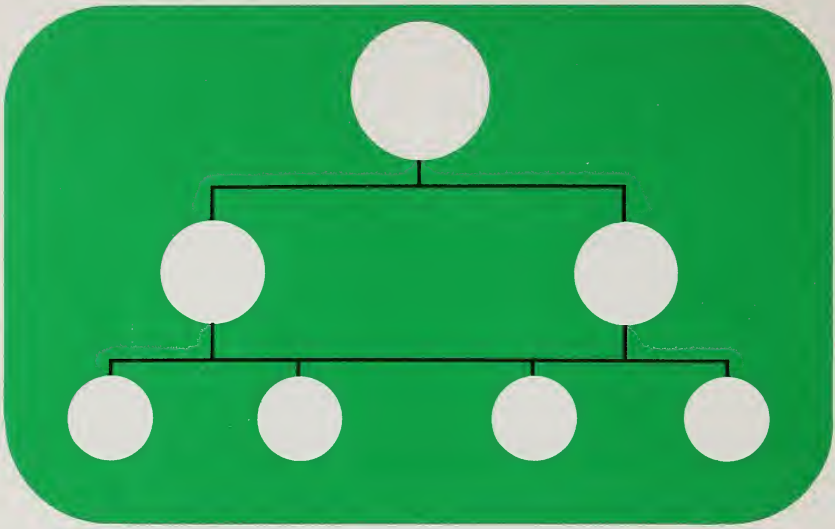
*transfer system—the Extension Service.* Thus, there has been an organization whose specific mission is to let people know about the latest in research findings, and to help them apply the findings to their own particular set of circumstances.

Congress has provided a solid continuing financial base for this cooperative research system through a series of laws:

1. the Hatch Experiment Station Act, as amended, 1955 (PL 84-352);
2. the McIntire-Stennis Cooperative Forestry Research Act (PL 87-788);
3. the Experiment Station Facilities Act (PL 88-74);
4. authorized grants for special research, the colleges of 1890, and Tuskegee Institute under the Act of August 4, 1965 (PL 89-106); and
5. the Rural Development Act of 1972, Title V (PL 92-419).

Funds appropriated under these acts are administered by the Cooperative State Research Service.





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## ORGANIZATION FOR RESEARCH

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### State Agricultural Experiment Stations

Every State, the District of Columbia, Guam, the Virgin Islands, and Puerto Rico all have at least one agricultural experiment station. Connecticut and New York have two each.

Station activities in most States center on the State university or land-grant college campus. Usually each station has a number of branch stations and outlying experimental farms so its scientists can work with special agricultural problems in distinctive ecological areas.

A director heads each station—usually under a board of trustees or regents of a particular university or college. In a few states, the director serves an experiment station board directly responsible to the governor.

Research scientists often teach or perform extension work at their university, in addition to their research. There are over 11,000 experiment station scientists devoting full-time or part-time to research.

The directors and scientists are State employees. Their research programs are cooperative with non-experiment station departments of their institutions, with other State experiment stations, with other State and Federal agencies, and with industry and foundations.

### Forestry Schools

Sixty-one institutions participate in the McIntire-Stennis Cooperative Forestry Research Program. Many of these are the same institutions having State agricultural experi-



ment stations (SAES). At each institution, one individual is designated as Administrative-Technical Representative (A-TR). The A-TR decides what research at that institution is to be supported under this Act. A Forestry Representative at each institution works with the A-TR on the technical and professional aspects of the program.

Over 500 scientists conduct McIntire-Stennis-funded forestry research. The number of forestry graduate students has increased dramatically because of this program. In fact, several hundred scientists who are now university teachers and researchers began their careers as graduate assistants in research funded under this Act.

## **1890 Colleges**

Research Coordinators direct cooperative research in the land-grant colleges of 1890 and at Tuskegee Institute. CSRS works directly with these institutions in their agricultural, nutritional, and rural development research programs. Over 100 scientists conduct agricultural research at these colleges and universities.

## **Federal Research Agencies**

At the Federal level, there are a number of USDA research agencies. Each is headed by a career administrator in Washington. Most have field installations around the country—often at the local land-grant universities or colleges.

USDA laboratory directors and scientists in these field installations

are Federal employees. Some work under joint arrangements with SAES and share State facilities with SAES staff. Some are members of university faculties and train graduate students and conduct seminars.

USDA agencies—particularly the Agricultural Research Service (ARS) and the Forest Service (FS)—also support a substantial amount of research on special problems through contracts and grants to and cooperative agreements with the SAES, other public institutions, and private research organizations.

## **Regional Research**

Research of interest to two or more States can be supported under Regional Research Funds (RRF). This money is made available under the Hatch Experiment Station Act (PL 84-352).

Each project under this funding is planned and conducted through a concerted team effort. Participating scientists are each responsible for accomplishing the objectives, working within a regional research committee. Some regional problems can be studied at one location. Others require the research effort to be spread over a number of locations in different States. Regional projects receive special guidance for organization and conduct of research: one of the SAES directors is designated the Administrative Adviser. Each regional committee has a CSRS staff consultant assigned to it. There are about 200 regional and inter-regional research committees.

## Rural Development

Rural development research is being done using funds from all the different sources CSRS administers. Hatch funds provide for more of the basic and economic studies.

Title V Rural Development funds carry more of the developmental research. These research funds are administered through CSRS also. CSRS staff work closely with the Extension Service Title V administrator to help foster cooperative research and action-education programs for rural America. The action-education programs are carried out with the advice and assistance of State rural development advisory councils. Research funds are distributed through CSRS to the SAES.

In addition, Title V research funds help support four Regional Rural Development Centers to provide leadership in strengthening research and extension work in rural development. Center staff assist rural development researchers in the States through syntheses of existing research knowledge and helping set research priorities, as well as occasionally doing some high-priority research themselves.

The Title V program is part of a larger governmental effort to encourage and bring about greater rural development through local, State, and Federal support and involvement. The land-grant universities play a major role in this program.



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## OBJECTIVES OF RESEARCH

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“... to promote a sound and prosperous agriculture and rural life ... and the maximum contribution of agriculture to the welfare of the consumer.”—(Sec. 2, Hatch Experiment Station Act.)

“... to encourage and assist the States in carrying out programs of forestry research.” (McIntire-Stennis Act.)

Statements such as these in Federal laws relating to Federal funding demonstrate the “mission-oriented” character of cooperative State-Federal research.

Within such broad objectives, this research system has some more specific objectives for research in agriculture and forestry:

1. *To solve local, regional, and national problems affecting agriculture, forestry, and rural life.* In general, States conduct most research specific to a State. USDA concentrates more on regional and national problems and needs. Of course, there are exceptions where USDA works on local problems through special funds from Congress, or where States alone or together work on regional or national problems—or where both the States and USDA cooperate. But whatever level is being worked on, there is constant effort to keep each other informed and to get the research done in the best way possible.

2. *To provide scientific expertise to local, State, and Federal Government agencies and private organizations.* Scientists actively participat-

ing in research have the specialized scientific expertise needed for effectively carrying out Government action programs. SAES, 1890 institutions and Tuskegee, and forestry school scientists routinely work closely with local and State government agencies, Federal agencies, and private organizations to provide expertise needed for action program development.

Similarly, USDA scientists make available their expertise to other USDA nonresearch agencies, other Federal departments, States, and private groups. They often play an important supporting role for other Federal regulatory and action agencies.

3. *To provide scientific competence for teaching, and to make available increased research opportunities for graduate students.* Most professionals in the SAES, 1890 colleges and Tuskegee, and forestry schools supervise undergraduate and graduate students in their specialties. These specialties are important not only to the research program of each institution, but also to its teaching program.

In this way, research workers make important contributions to our national goals for education, and to the development of future agricultural and forestry scientists. Insofar as arrangements can be made, USDA scientists also participate in this teaching and training activity at the institutions.

4. *To provide scientific expertise and research in support of programs*

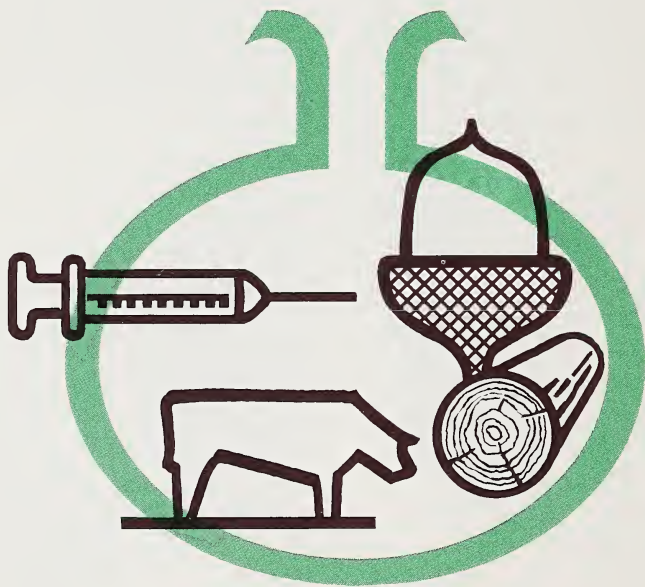


that relate to foreign nations. At first, USDA provided most of this service. But recently, the SAES and their parent universities have expanded their international programs—particularly with technical assistance to developing countries.

Funds available from PL-480 support USDA contracts with foreign research agencies and scientists. This effort has helped expand markets for U.S. products abroad. It also has aided the development of agriculture abroad; and it has stimulated research in other countries, to the mutual benefit of us all.

5. *To provide a continuing flow*

*of new knowledge essential to the solution of current and future problems.* One great strength of the USDA-land-grant research system is that it is organized and on-going. This is essential for the longrun solution of most problems. Because of the challenge that a new problem presents to a scientist's curiosity, current problems tend to stimulate research. In-depth efforts are then needed to most effectively solve most problems. These steps are possible because the system is constantly feeding new knowledge to the scientific community.



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## RESEARCH PROGRAMS

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Early agricultural research, like rural life then, was relatively simple and limited. It centered on the

immediate problems of the farm—crop and livestock production, farm management, and rural life. Basic

scientific disciplines were concerned with agriculture because of the importance of agriculture at that time—disciplines such as chemistry, biology, and geology.

In time, specialized fields of science arose out of this pioneering work: agronomy, animal husbandry, agricultural economics, genetics, entomology, horticulture, phytopathology, microbiology, rural sociology, veterinary medicine, and so on. As knowledge expanded, so did the need to specialize as each discipline became more complex.

Today, most scientific disciplines are relevant to agricultural research in some way. And the findings of agricultural research touch on a wide range of disciplines outside agriculture.

Each State agricultural experiment station, 1890 college and Tuskegee, school of forestry, or USDA agency maintains the competence needed to carry out its priority research objectives, shifting emphasis as new research needs arise.

Not all agricultural research is applied directly to day-to-day problems. Basic research is essential, too, to generate new knowledge that can then be applied to the solution of applied problems.

Research in agriculture and forestry tries to:

1. *Ensure a stable, productive agriculture through wise natural resource use.* Areas being researched include such topics as: appraisal of wildlife, soil, forest, range, and water resources; soil, animal, plant, water, and nutrient relationships; alternative uses of land; conservation and efficient use of water;

watershed protection and management; economic and legal problems in management of water and watersheds; adaptation to weather and weather modification; wildlife management, forest and range management; remote sensing; and energy conservation.

2. *Protect forests, crops, and livestock from insects, diseases, and other hazards.* Examples of areas of research here include: controlling insects, diseases, weeds, nematodes, and the like affecting crops, forests, range, livestock, and poultry; protecting plants, animals and humans from toxic chemicals, poisonous plants, and pollution effects; and developing integrated pest management systems.

3. *Ensure enough agricultural and forest products at decreasing real production costs.* Research area examples include: genetics and breeding of crops, forest trees, and livestock and poultry; production management systems for crops, livestock, poultry, and forests; mechanization; production economics and farm business management; bees and other pollinating insects; biological technology and biometry not tied to commodities; and lowering energy needs for production.

4. *Expand agricultural and forest product demand by developing new and improved products, processes, and product quality.* Broad areas being researched here include for example: new and improved farm and forest products; crop and animal products more acceptable to consumers and processors; ways of keeping food and fiber quality in storage and while being marketed;



new sources of protein; and greater use of byproducts.

5. *Improve marketing efficiency.*

Areas being studied here include: grades and standards improvements for crop, timber, and animal products; development of new markets; improving market efficiency; supply, demand, and price analysis; competitive interrelationships; group action and market power; and improvement in agricultural statistics and forecasting services.

6. *Expand export markets and help developing nations.* Research area examples include: foreign market development; evaluation of foreign food aid programs; technical assistance to developing countries; and product development and marketing for foreign markets.

7. *Protect consumer health and improve the nutrition and well-being of the American people.* Research examples include: keeping food and feed supplies free of toxic residues from agricultural sources and from harmful microorganisms, and naturally occurring toxins; improving food choices, habits, and commercial food service; selecting and maintaining clothing and household textiles; controlling insect pests of man and his belongings; preventing the transmission of animal diseases and parasites to man; reducing other hazards to health and safety; and improving human nutrition.

8. *Assist rural Americans to improve their level of living.* Research covers such areas as these examples: housing; individual and family decision-making and resource use; family functioning; causes of

poverty among rural people; improvement of economic potential of rural people; communication and education processes; individual and family adjustment to change; structural changes in agriculture; and government programs to balance farm input and market demand.

9. *Promote community development including development of beauty, recreation, environment, economic opportunity, and public services.* Examples of research areas include: alleviation of soil, water and air pollution and disposal of wastes; outdoor recreation; multiple use potential of forest land and evaluation of forestry programs; fish and other marine life; furbearing animals and other wildlife; trees to enhance rural and urban environments; culture and protection of ornamentals and turf; improved income opportunities in rural communities; and the improvement of rural community institutions and services.

10. *Conduct fundamental research needed to help solve important problems in the nine areas listed above.* Knowledge from fundamental research is essential for a viable applied research program. It provides the building blocks of new knowledge needed for a solidly grounded mission-oriented research program. That storehouse of knowledge must constantly be updated and replenished. Only by being strong in both fundamental and applied research areas can the cooperative State-Federal research system continue to contribute so dramatically to the national goals of the American people.

## RESEARCH COORDINATION

One of CSRS's major responsibilities is to help with the coordination of cooperative State-Federal research.

It involves over 100 State institutions and Federal agencies, thousands of scientists, and more than 24,000 research projects. With such extensive programs, coordination is vital to avoid unnecessary duplication, to assure the best use of resources, and to encourage the sharing of research information.

Research projects, technical committees, advisory and task groups, seminars, workshops, and regional and national meetings all provide opportunities for scientists to get together and coordinate their research plans and activities. They are all part of the "glue" that binds this research system together and promotes research planning and coordination. Various organizational structures also are part of what makes for a cohesive research system.

For example, experiment station administrators have their regional meetings and an Experiment Station Section in the National Association of State Universities and Land-Grant Colleges (NASULGC). There they share plans and coordinate activities.

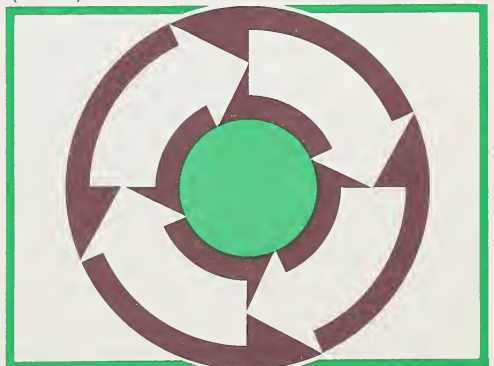
Research Coordinators from the 1890 colleges meet seminannually. They also meet jointly with the SAES directors at the NASULGC meetings.

Forest resources research administrators meet regionally and

nationally as an Association of State College and University Forestry Research Organizations (ASCUFRO).

These administrator groups are represented at the national level in planning and policy formation by their own committees: the Experiment Station Committee on Organization and Policy (ESCOMP); and an Advisory Board and Advisory Committee for forestry research. The Association of Administrators of Home Economics and the Association of American Veterinary Medical Colleges have similar roles in the coordination of their respective related research programs.

In USDA, the Office of the Assistant Secretary for Conservation, Research, and Education is central to research policy development, planning, and evaluation. That Office has line supervision over the Agricultural Research Service (ARS), CSRS, Extension Service (ES), Forest Service (FS), Soil Conservation Service (SCS), and the National Agricultural Library (NAL).



## **CSRS's Role**

CSRS administers the cooperative experiment station, state forestry, 1890 colleges and Tuskegee, and competitive grant funds provided through USDA to States to supplement and support local research.

CSRS's scientific staff review proposed research and research in progress. They help plan and coordinate research; and they encourage establishing and maintaining cooperation by and between States, and between States and Federal agencies.

CSRS also is responsible for CRIS—the USDA automated Current Research Information System. Through CRIS, scientists and administrators can have access to plans and reports of over 24,000 State and Federal agricultural and forestry research projects.

Scientists and administrators find CRIS valuable for searching out what research is being done on a particular topic, and who is doing it. This is useful in research program planning and helps assure that new research will build on all available scientific knowledge. It also guides scientists in getting in touch with colleagues with similar research interests. CRIS records can also tell the administrator where there are gaps, potential overlaps, and major thrusts in research already under way.

CSRS is responsible for an annual handbook listing professional workers in State agricultural experiment stations and other cooperating State institutions. Staff also prepare an annual report on the status of funds for research.

CSRS performs vital legislative functions for the cooperative State-Federal research system. It keeps the system informed on relevant legislation. Its staff contribute to the writing and development of legislation important to the system and to agriculture and forestry. Staff also provide liaison for the system with the Secretary of Agriculture's Office and with Congress.

Increasingly, CSRS staff have become involved in interdepartmental and interagency efforts involving major societal concerns. Examples are such programs as those dealing with world food needs, pesticides and their environmental impact, solar energy development, and mine-land reclamation.

In addition, as the United States of America has signed more bilateral agreements with other countries, CSRS staff have been called on to help coordinate international programs and exchanges of information dealing with agricultural and forestry research. As international concerns over food shortages grow, this role for CSRS takes on greater and greater importance.

## National-level Research Planning

The top policy-recommending body for agricultural research is the Agricultural Research Policy Advisory Committee (ARPAC). The Assistant Secretary for Conservation, Research and Education, and a land-grant agricultural college dean, co-chair this committee. Its members include USDA research agency administrators, chairmen of State research policy committees such as ESCOP and ASCUFRO, deans of the colleges of agriculture, regional representatives, and State research directors. Also represented are the Agricultural Research Institute and the Extension Service.

ARPAC sponsors a National Agricultural Research Planning Committee made up of USDA,

NASULGC, and ASCUFRO representatives. It also sponsors Regional Agricultural Research Planning Committees. These planning groups help provide direction to the Federal-State research system through their efforts and through their reports and advice to ARPAC.

Cooperative regional research matters, as part of the Hatch research program, generally come under the advisory purview of the Committee of Nine—eight elected from the directors of the SAES and one administrator of home economics research. This body recommends on regional research projects and on fund allocations, and in general advises on cooperative regional research.

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## HOW TO GET INFORMATION

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Each State institution and USDA have publications summarizing completed research. If you are interested in a particular topic or locality, write the director of the experiment station of your State.

For further information on cooperative State-Federal agricultural and forestry research, contact:

Administrator  
Cooperative State Research  
Service  
U.S. Department of Agriculture  
Washington, D.C. 20250

For more general information on agricultural research programs, write:

Director, Office of Communication  
U.S. Department of Agriculture  
Washington, D.C. 20250

The National Agricultural Library, Beltsville, Md.; university libraries, and State and county Cooperative Extension Service offices also provide advice and assistance on how to get information on State and Federal research in agriculture and forestry.

For more information about or from CRIS (Current Research Information System), contact:

Director, Current Research  
Information System  
U.S. Department of Agriculture  
Washington, D.C. 20250



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## STATE AGRICULTURAL EXPERIMENT STATIONS ESTABLISHED UNDER THE HATCH ACT OF 1887

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ALABAMA, Auburn 36830  
Auburn University

ALASKA, College 99701  
University of Alaska

ARIZONA, Tucson 85721  
University of Arizona

ARKANSAS, Fayetteville 72701  
University of Arkansas

CALIFORNIA, Berkeley 94720  
University of California

COLORADO, Fort Collins 80521  
Colorado State University

CONNECTICUT, New  
Haven 06504

CONNECTICUT, Storrs 06268  
University of Connecticut

DELAWARE, Newark 19711  
University of Delaware

FLORIDA, Gainesville 32601  
University of Florida

GEORGIA, Athens 30101  
University of Georgia

GUAM, Agana 96910  
University of Guam

HAWAII, Honolulu 96822  
University of Hawaii

IDAHO, Moscow 83843  
University of Idaho

ILLINOIS, Urbana 61801  
University of Illinois

INDIANA, Lafayette 47907  
Purdue University

IOWA, Ames 50010  
Iowa State University  
of Science and Technology

KANSAS, Manhattan 66502  
Kansas State University

KENTUCKY, Lexington 40506  
University of Kentucky

LOUISIANA, Baton Rouge 70803  
Louisiana State University

MAINE, Orono 04473  
University of Maine

MARYLAND, College Park 20702  
University of Maryland

MASSACHUSETTS, Amherst 01002  
University of Massachusetts

MICHIGAN, East Lansing 48824  
Michigan State University

MINNESOTA, St. Paul 55101  
University of Minnesota

MISSISSIPPI, Mississippi State 39762  
Mississippi State University

MISSOURI, Columbia 65201  
University of Missouri

MONTANA, Bozeman 59715  
Montana State University

NEBRASKA, Lincoln 68503  
University of Nebraska

NEVADA, Reno 98507  
University of Nevada

NEW HAMPSHIRE, Durham 03824  
University of New Hampshire

NEW JERSEY, New Brunswick 08903  
Rutgers—The State University



NEW MEXICO, Las Cruces 88001 New Mexico State University	SOUTH DAKOTA, Brookings 57006 South Dakota State University
NEW YORK, Geneva 14456 Cornell University	TENNESSEE, Knoxville 37901 University of Tennessee
NEW YORK, Ithaca 14850 Cornell University	TEXAS, College Station 77843 Texas A&M University
NORTH CAROLINA, Raleigh 27607 North Carolina State University	UTAH, Logan 84321 Utah State University
NORTH DAKOTA, Fargo 58102 North Dakota State University	VERMONT, Burlington 05401 University of Vermont
OHIO, Columbus 43210 Ohio State University—Columbus	VIRGINIA, Blacksburg 24061 Virginia Polytechnic Institute and State University
OHIO, Wooster 44691 Ohio Agricultural Research and Development Center	VIRGIN ISLANDS, St. Croix 00850 College of the Virgin Islands
OKLAHOMA, Stillwater 74074 Oklahoma State University	WASHINGTON, District of Columbia 20008 Washington Technical Institute
OREGON, Corvallis 97331 Oregon State University	WASHINGTON, Pullman 99163 Washington State University
PENNSYLVANIA, University Park 16802 Pennsylvania State University	WEST VIRGINIA, Morgantown 26506 West Virginia University
PUERTO RICO, Rio Piedras 00928 University of Puerto Rico	WISCONSIN, Madison 53706 University of Wisconsin
RHODE ISLAND, Kingston 02881 University of Rhode Island	WYOMING, Laramie 82070 University of Wyoming
SOUTH CAROLINA, Clemson 29631 Clemson University	

State agricultural experiment stations at these locations are the recipients of Hatch, Regional Research, Title V, and Research Facilities funds, and participate in the Specific Grants Program on a competitive basis. At several of these locations, the State agricultural experiment station was also certified for participation in the McIntire-Stennis program, in lieu of the land-grant institution or other unit.

NOTE: New Haven, Connecticut (SAES) is not affiliated with a land-grant college.

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## LAND-GRANT INSTITUTIONS ESTABLISHED UNDER THE SECOND MORRILL ACT OF 1890

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ALABAMA, Normal 35762  
Alabama A&M University

ALABAMA, Tuskegee Institute  
36088  
(a non-land-grant participant)

ARKANSAS, Pine Bluff 71601  
University of Arkansas—  
Pine Bluff

DELAWARE, Dover 19901  
Delaware State College

FLORIDA, Tallahassee 32307  
Florida A&M University

GEORGIA, Fort Valley 31030  
Fort Valley State College

KENTUCKY, Frankfort 40601  
Kentucky State University

LOUISIANA, Baton Rouge 70813  
Southern University  
and A&M College

MARYLAND, Princess Anne 21853  
University of Maryland—  
Eastern Shore

MISSISSIPPI, Lorman 39096  
Alcorn State University

MISSOURI, Jefferson City 65101  
Lincoln University

NORTH CAROLINA, Greensboro  
27411  
North Carolina A&T State  
University

OKLAHOMA, Langston 73050  
Langston University

SOUTH CAROLINA, Orangeburg  
29115  
South Carolina State College

TENNESSEE, Nashville 37203  
Tennessee State University

TEXAS, Prairie View 77445  
Prairie View A&M State  
University

VIRGINIA, Petersburg 23803  
Virginia State College

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## NON-LAND-GRANT INSTITUTIONS PARTICIPATING IN THE COOPERATIVE FORESTRY RESEARCH (McINTIRE-STENNIS) PROGRAM

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ARIZONA, Flagstaff 86001  
Northern Arizona University

CALIFORNIA, Arcata 95521  
Humboldt State College

ILLINOIS, Carbondale 62901  
Southern Illinois University

LOUISIANA, Ruston 71270  
Department of Forestry,  
Louisiana Tech University

MICHIGAN, Ann Arbor 48104  
University of Michigan

MICHIGAN, Houghton 49931  
Michigan Technological  
University

MONTANA, Missoula 59801  
Forest and Conservation Experi-  
ment Station, School of Forestry,  
University of Montana

NEW YORK, Syracuse 13210  
State University College of  
Forestry at Syracuse University

TEXAS, Nacogdoches 75961  
Stephen F. Austin State  
University

WASHINGTON, Seattle 98105  
University of Washington

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**COOPERATIVE STATE RESEARCH SERVICE ADMINISTRATION**

---

T. S. Ronningen	-----	Acting Administrator
C. I. Harris	-----	Deputy Administrator for Agriculture, Rural Development and Consumer Services Programs
J. D. Sullivan	-----	Deputy Administrator for Natural Resources and Special Programs
E. C. Miller	-----	Deputy Administrator for Program Operations, Evaluation and Analysis
M. E. Miller	-----	Director of Information

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**STATE AGRICULTURAL EXPERIMENT STATION  
REGIONAL DIRECTORS/COORDINATORS**

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G. M. Browning	-----	North Central Region, Iowa State University, Ames, Iowa 50010
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